



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/780,827 | 02/18/2004 | Thomas Rezachek | H0004291 | 3746 |

7590 10/16/2007
Kris Fredrick
Honeywell International Inc.
101 Columbia Road - Patent Department
Morristown, NJ 07962-2245

| |
|----------|
| EXAMINER |
|----------|

CREPEAU, JONATHAN

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1795

| | |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/780,827 | Applicant(s) REZACHEK ET AL. | |
| | Examiner Jonathan S. Crepeau | Art Unit 1795 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action addresses claims 1-52. Claims 7 and 28 contain allowable subject matter. Claim 24 is newly rejected under 35 USC 112 first paragraph and claims 20-23 are newly rejected under 35 USC 112 second paragraph. Claims 1-6, 8, 9, 12-25, and 31-52 remain rejected for the reasons of record and claims 10, 11, 26, 27, 29 and 30 are newly rejected as necessitated by amendment. Accordingly, this action is made final.

Claim Objections

2. Claim 1 is objected to because of the following informalities: there is no period at the end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 24 recites porous plugs, while parent claim 1 recites a valve. There does not appear to be adequate support for this combination of elements. In [0041] the specification discloses that “liquid water may be prevented from seeping out of the water vapor generator 12 by either porous plugs 24 or by a valve 26.” Accordingly, there does not appear to be adequate support for the combination of a valve and porous plugs in the same embodiment. Correction is required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 20 recites “[t]he power generator of claim 1 further comprising at least one valve,” however it is not clear if this valve is the valve already defined in claim 1.

Claim Rejections - 35 USC § 102

7. Claims 31, 34, 36, 43, 47, 48, and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Bailey, Jr. et al (U.S. Patent 4,261,955). The reference teaches an electrical power generator comprising a water vapor generator (28) and a hydrogen gas generator (12) attached to the water vapor generator via conduits (22) (see Fig. 2). A fuel cell is attached to the hydrogen gas generator via a conduit (26) (see Fig. 2, col. 2, line 5). The hydrogen gas generator contains

Art Unit: 1795

a substantially non-fluid metal hydride material (see col. 1, line 55). The water vapor generator comprises a chamber which is filled with liquid water (28) and has water vapor above it (see Fig. 2). The metal hydride reacts with water vapor to produce hydrogen (see col. 2, line 9). Porous membranes (i.e., plugs) (20) impede the flow of liquid from the water vapor generator but allow passage of hydrogen gas and water vapor therethrough (see Fig. 2). The hydride fuel is present in "pellet" or "granule" form (see Fig. 2). The water vapor generator comprises a tensile membrane (24) which pumps water vapor (see Fig. 2).

Thus, the instant claims are anticipated.

8. Claims 31, 34, 36, 39, 42, 43, 47, 48, 49 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Taschek (U.S. Patent 4,155,712). The reference teaches an electrical power generator comprising a water vapor generator (3) and a hydrogen gas generator (2) attached to the water vapor generator (see Fig. 1). A fuel cell is attached to the hydrogen gas generator via a conduit (9) (see Fig. 1; col. 4, line 40). The hydrogen gas generator contains a substantially non-fluid metal hydride material such as lithium aluminum hydride (see col. 3, line 65 et seq.). The water vapor generator comprises a chamber which is filled with liquid water (7) and has water vapor above it (see Fig. 1). The metal hydride reacts with water vapor to produce hydrogen (see col. 4, line 4). The hydride fuel is present in "pellet" or "granule" form (see Fig. 1). Water vapor generator comprises a tensile membrane (4) which pumps water vapor (see Fig. 1).

Thus, the instant claims are anticipated.

9. Claims 1-4, 6, 8, 10-15, 18-23, 25, 31, 33-45, and 49-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Kerrebrock et al (U.S. Patent 5,372,617). The reference teaches an electrical power generator comprising and a fuel cell attached to a hydrogen gas generator (22) via a conduit containing a valve (72) (see Fig. 4). The hydrogen gas generator contains a substantially non-fluid metal hydride material in a pelletized or granular form (see col. 5, line 30). The material may comprise lithium borohydride, sodium borohydride, or lithium aluminum hydride (see Table 1). The system further comprises a water reservoir (64) that supplies water to the hydrogen generator via a pump (66) and a valve (68). In column 7, line 42, the reference teaches that a heater (water vapor generator) may be provided in the water feed line to generate steam (water vapor) for injection into the hydrogen generator. A return line from the fuel cell leads to the water reservoir (see Fig. 4). The valve can be being controlled by hydrogen gas pressure within the system, as measured by a sensor (74) (see Fig. 4). Regarding the recitations of "mesopump" and "mesovalve," the pump and valve of Kerrebrock are considered to read on these limitations in the absence of a clear definition of these terms.

Thus, the instant claims are anticipated.

10. Claims 31, 33-36, 43-45, and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Werth (U.S. Patent 6,093,501). The reference teaches an electrical power generator comprising and a fuel cell attached to a hydrogen gas generator (15) via a conduit containing a pump (19) (see Fig. 2). The hydrogen gas generator contains a substantially non-fluid iron

material. The system further comprises a water reservoir (18) that supplies water to the hydrogen generator via a pump (16). A heater (17) is provided in the water feed line to generate steam for the hydrogen generator (see col. 3, line 29). A return line from the fuel cell leads to the water reservoir (see Fig. 2).

Thus, the instant claims are anticipated.

Claim Rejections - 35 USC § 103

11. Claims 5, 9, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerrebrock in view of WO 01/85606.

Kerrebrock is applied for the reasons stated above. However, the reference does not expressly teach that a mixture of alcohol and water is used to generate hydrogen as recited in claims 5, 9, and 32.

WO '606 is directed to a method of hydrogen generation comprising reacting a metal hydride with at least one alcohol in the presence of water (see abstract).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated by the disclosure of WO '606 to add an alcohol to the reactant water supply of Kerrebrock. In the abstract, WO '606 teaches that the use of an alcohol "provide s a convenient, efficient method of generating hydrogen for a fuel cell." Accordingly, the artisan would be motivated by the disclosure of WO '606 to add an alcohol to the reactant water supply of Kerrebrock.

It is further noted that instant claims 5, 9, and 32 are not believed to be supported in the manner required by 35 USC 112, first paragraph by the parent application Serial No. 09/941,247, nor provisional application Serial No. 60/448,573, and are therefore accorded a filing date of 2/18/04. As such, the WO '606 reference qualifies as prior art under 35 USC 102(b) against these claims.

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerrebrock in view of Hoffman et al (U.S. Patent 4,055,632).

Kerrebrock is applied for the reasons stated above. However, the reference does not expressly teach that the hydrogen generator further comprises a hydrogen generation catalyst, as recited in claim 16.

Hoffman et al. is directed to a hydrogen gas generator. In column 2, line 67 et seq., the reference teaches that the generator comprises a metallic hydride such as sodium borohydride and a catalyst such as cobalt chloride.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated by the disclosure of Hoffman et al. to use sodium borohydride and cobalt chloride in the hydrogen generator of Kerrebrock. In the cited passage, Hoffman et al. state that these materials are "preferred." Thus, the artisan would have sufficient motivation to use these materials in the

hydrogen generator of Kerrebrock. Accordingly, the subject matter of claim 16 would be rendered obvious to the skilled artisan.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerrebrock in view of Hoffman et al as applied to claim 16 above, and further in view of Suda (U.S. Patent 6,358,488).

Hoffman et al. do not expressly teach that the catalyst is cobalt, nickel, or ruthenium, as recited in claim 17.

Suda is directed to a method of generation of hydrogen gas involving metal hydrides and water. In column 4, line 24, the reference teaches that cobalt and nickel can be used as catalysts in the reaction.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated by the disclosure of Suda to use cobalt or nickel as the catalyst of the modified system of Kerrebrock. In column 4, line 17, Suda teaches that "it is essential in the inventive method that the reaction is promoted catalytically by a catalyst material brought into contact with the reaction medium." Accordingly, the artisan would be motivated to use cobalt or nickel as the catalyst of Hoffman, thereby rendering the subject matter of claim 17 obvious.

Art Unit: 1795

14. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey, Jr. et al. in view of Lehmeier et al (U.S. Patent 5,942,344).

Bailey, Jr. et al. is applied for the reasons stated above. However, the reference does not expressly teach that the fuel cell is heated with a heater, as recited in claim 46.

Lehmeier et al. is directed to a high-temperature fuel cell surrounded by a heating element (12, 14) and insulation (9) (see the Figure; col. 3, line 49).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use the fuel cell of Lehmeier et al. and its associated heater and insulation in the system of Bailey, Jr. et al. In column 2, line 14, Lehmeier et al. teaches the following:

It is accordingly an object of the invention to provide a high-temperature fuel cell system and a method for its operation, which overcome the hereinafore-mentioned disadvantages of the heretofore-known devices and methods of this general type and in which the high-temperature fuel cells are not polluted or damaged during heating.

Accordingly, the artisan would be motivated to use the fuel cell and associated components of Lehmeier et al. in the system of Bailey, Jr. et al in hopes not polluting or damaging the fuel cell during heating.

15. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerrebrock al. in view of Lehmeier et al.

Kerrebrock et al. is applied for the reasons stated above. However, the reference does not expressly teach that the fuel cell is heated with a heater, as recited in claim 26, or that the fuel cell is at least partially surrounded by insulation, as recited in claim 27.

Lehmeier et al. is directed to a high-temperature fuel cell surrounded by a heating element (12, 14) and insulation (9) (see the Figure; col. 3, line 49).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use the fuel cell of Lehmeier et al. and its associated heater and insulation in the system of Kerrebrock et al. In column 2, line 14, Lehmeier et al. teaches the following:

It is accordingly an object of the invention to provide a high-temperature fuel cell system and a method for its operation, which overcome the hereinafore-mentioned disadvantages of the heretofore-known devices and methods of this general type and in which the high-temperature fuel cells are not polluted or damaged during heating.

Accordingly, the artisan would be motivated to use the fuel cell and associated components of Lehmeier et al. in the system of Kerrebrock et al. in hopes not polluting or damaging the fuel cell during heating.

16. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (U.S. Pre-Grant Publication No. 2003/0044656) in view of Bostaph et al (U.S. Pre-Grant Publication No. 2002/0076589).

Art Unit: 1795

Wood teaches all the limitations of claim 1 (see Fig. 2, for example). However, Wood does not expressly teach that the water vapor generator, hydrogen generator, fuel cell, and conduits are formed within a polymeric block, as recited in claim 29.

The Bostaph et al. reference is directed to a fuel cell system comprising components embedded in a polymer base portion (14) (see [0017]).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to embed the components of Wood in a polymer base portion. In [0009] Bostaph et al. teach the following:

[0009] It is still a further purpose of the present invention to provide for a direct methanol fuel cell system and integrated sensor in which all of the system components are embedded inside a base portion, such as a ceramic base portion.

Therefore, it is submitted that the artisan would be motivated to incorporate the components of Wood into a polymer base portion in order to provide a suitable housing/support for the components and reduce the size of the assembly. Further, the use the specific polymers recited in claim 30 would be obvious to the skilled artisan. For example, polycarbonate is a well-known material and provides advantages such as strength, toughness, and lightweightness. As such, the recitation of a polymeric material and the particular species of polymers are not considered to distinguish over the reference.

It is further noted that instant claims 29 and 30 are not believed to be supported in the manner required by 35 USC 112, first paragraph by the parent application Serial No. 09/941,247, but *are* believed to be supported by provisional application Serial No. 60/448,573, and are

therefore accorded a filing date of 2/19/03. As such, the Wood reference qualifies as prior art under 35 USC 102(e) against these claims.

The Wood reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Double Patenting

17. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined

Art Unit: 1795

application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

18. Claims 31 and 33-52 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 7,001,681. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '681 patent anticipate the instant claims.

19. Claim 32 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 7,001,681 in view of WO 01/85606. WO '606 is applied for the reasons set forth in the rejection above, therefore rendering obvious the subject matter of claim 32.

Art Unit: 1795

20. Claims 1-4, 6-8, and 10-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 9-15, 18-21, and 36-41 of copending Application No. 11/247,435. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '435 application anticipate some of the instant claims and render the remaining claims obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

21. Claims 5 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 9-15, 18-21, and 36-41 of copending Application No. 11/247,435 in view of WO 01/85606. WO '606 is applied for the reasons set forth in the rejection above, therefore rendering obvious the subject matter of claims 5 and 9.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

22. Claims 1-4, 6-8, 10-31 and 33-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 10/907294. Although the conflicting claims are not identical, they are not

patentably distinct from each other because the '294 application claims anticipate some of the instant claims and render the remaining claims obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

23. Claims 5, 9, and 32 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 10/907294 in view of WO 01/85606. WO '606 is applied for the reasons set forth in the rejection above, therefore rendering obvious the subject matter of claims 5, 9, and 32.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

24. Applicant's arguments filed August 16, 2007 have been fully considered but they are not persuasive. Regarding independent method claims 31 and 49, these claims have been amended to recite "regulating water vapor flow to the hydrogen generator" and "contacting water in the form of regulated water vapor." It is submitted that teach of Bailey, Jr., Taschek, and Werth teaches these limitations. With regard to Werth, this reference expressly teaches a pump (16) performing the claimed regulating steps. With regard to Bailey, Jr. and Taschek, the water vapor

is “regulated” by controlling the amount of water fed to the system, among other factors. It is noted that claims 31 and 49 do not recite a valve and the claimed regulating steps may be performed by other means, such as in the references.

Further with regard to Kerrebrock and Werth, Applicants state that these references disclose steam rather than water vapor. However, it is submitted that “steam” and “water vapor” are synonymous, for the reasons set forth in copending application serial no. 11/247,435. Applicants further state that Kerrebrock does not regulate the flow of water vapor but rather liquid water. However, as disclosed in the Kerrebrock specification, a heater (water vapor generator) may be placed in the water line, i.e., between the pump and the valve (68). Accordingly, the valve would be regulating water vapor flow to the hydrogen generator.

Regarding the double patenting rejections, Applicants state that the Office has not articulated reasons why the claims are anticipated or rendered obvious. In response, regarding the rejection over the ‘681 patent, claim 1 of the ‘681 patent discloses all the limitations of instant claim 31, and thus anticipates claim 31. Further, the reasons that claim 32 is obvious have been clearly articulated in the rejection (i.e., WO ‘606 applied for the reasons stated in the 103 rejection). Accordingly, the double patenting rejections are believed to be proper.

Allowable Subject Matter

25. Claims 7 and 28 contain allowable subject matter as currently drafted but are subject to double patenting rejections as set forth above.

Art Unit: 1795

26. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 28, the Kerrebrock reference does not teach or fairly suggest a tensile membrane within the water vapor generator that exerts pressure directing water vapor to the hydrogen gas generator.

Conclusion

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

Art Unit: 1795

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Primary Examiner
Art Unit 1795
October 11, 2007